TI gives ZigBee away
Jitters in the ZigBee market?

Incisor has learned that Texas Instruments (TI) has announced the release of its ZigBee stack, Z-Stack, for free download at www.ti.com/zigbee. The simple piece of news that TI is giving away this software continues and extends an interesting debate over ZigBee.

Why? Because the ultra low power wireless sector has been facing a conundrum – how much complication, and therefore cost, do you need add to connect sensor-style wireless devices? Despite the best efforts of the ZigBee protagonists, much of the available business is being mopped-up by devices based on 802.15.4 radios and proprietary solutions. Mainly because they are cheap.

TI has always been aware of this. In an interview with Incisor at the time that it acquired ZigBee trailblazer Chipcon (which could be described as the 'early days CSR' of the ZigBee industry), Art George, Vice President of TI's High Performance Linear Group and the person that oversaw the acquisition and would subsequently run Chipcon as an integral part of TI said 'Chipcon is one of a number of companies that – alongside promoting ZigBee - has been supplying proprietary solutions to customers, and for some applications these are right. At this point the business generated by these products is healthy and provides valuable income. It is TI's intention to continue to supply these products for as long as people want to buy them." (see Incisor's special feature 'ZigBee – a PAN for industry or a can of worms'? in issue 92 http://click-incisor.com/pdf/92march2006.pdf).

Art George, Texas Instruments

TI's Z-Stack has some undoubtedly valuable credentials. It has been awarded the ZigBee Alliance golden unit status by the ZigBee test house TÜV Rheinland and is apparently used by thousands of ZigBee developers worldwide. Z-Stack is compliant with the ZigBee 2006 specification and supports multiple platforms including the CC2430 System-on-Chip solution for IEEE 802.15.4/ZigBee and a new platform based on the CC2420 transceiver and TI's MSP430 ultra-low-power microcontrollers (MCUs). In addition to being fully compliant with the ZigBee 2006 specification, Z-Stack supports new extended features like over-the-air-download, which allows updates of nodes wirelessly over a ZigBee mesh network. Z-Stack also supports the CC2431 which features location awareness. This enables the users to create new ZigBee applications that can change behaviour based on the nodes' current location.

This is all good stuff, but you do wonder why TI needs to give it away?

There is other evidence that TI is trying hard to encourage wider take-up of its ZigBee solutions. We understand that TI has re-introduced its ZigBee development kits, but that is has dropped the price 'to enable more designers to evaluate TI's ZigBee solution'.

All of TI's efforts to push it's ZigBee portfolio could be said to be of limited relevance if the business case for ZigBee is struggling. Incisor's editorial brief is to cover all of the principal short-range wireless technologies, including ZigBee. As we travel around the world and talk to people in or connected to the industry, proponents of any technology – Bluetooth, UWB, Wi-Fi, RFID, NFC etc – will generally acknowledge the strengths of competing technologies. However, it is rare to find anyone that ever speaks up for ZigBee. Most are fairly dismissive, questioning the need for ZigBee, and bandying unimpressive ZigBee chip sales numbers.

And the ZigBee Alliance doesn't really help this situation. It is notoriously reticent, and has admitted as such in discussions with Incisor. These wireless management bodies normally accept that they have to evangelise, but the ZigBee Alliance doesn't seem to want to do this. By way of example, it was invited to participate in the Wireless Symposium that Incisor is staging for Incisor TV in London during June. This ➔

event provides a stage for each of the wireless alliances to promote its technology in a roundtable environment, and to be part of what will hopefully be a stimulating and informative discussion. The Bluetooth SIG, Wi-Fi Alliance and WiMedia Alliance all quickly signed up to be involved. Discussions continue with the NFC Forum and what do you know, the DECT Forum also contacted us and is likely to be involved. The ZigBee Alliance, entirely predictably, declined to participate. Diary conflicts were cited, but ZigBee is supported by a number of big companies, and it is hard to accept that nobody could make themselves available if the desire was there to do so. Could it be that the ZigBee Alliance doesn't want to be in the spotlight alongside the other technology bodies? This isn't sour grapes, by the way, we would have loved there to be a ZigBee presence at the event so that this sector was represented.

Taking TI's announcement and the low (and getting lower) profile of the ZigBee Alliance into account, is this a sign, as others have suggested, that ZigBee's future is in question? If you set any value on sensing 'vibes', you may not be choosing to invest today in a ZigBee-centric business. It's possible that such thoughts are echoing around the boardroom at Texas Instruments.

If it does proves to be the case that at this point in time ZigBee was at the top of a very slippery slope, remember where you read it first!

zigbee /802.15.4 news

Ember's USB Link lowers ZigBee development cost

It seems everyone is bringing the cost of developing ZigBee solutions down. In addition to Texas Instruments' announcement that it will give away its ZigBee protocol stack (see TI gives ZigBee away), Ember, another company with a big investment in ZigBee, has announced a new USB-based programming tool that is said to be easy to use and lowers the cost of developing ZigBee wireless applications.

The plug-and-play InSight USB Link includes a USB adapter and flash programming software that makes it easier to program Ember's ZigBee radio modules. Using a USB-enabled PC, customers can connect directly to Ember's EM250 and EM260 and upload ZigBee applications. Until now, customers used Ember's more sophisticated InSight Adapter to program the modules via an Ethernet network.

For example, CCS Inc. is using the InSight USB Link to program EM260 modules within their own development environment. "The USB Link has enhanced our development process by providing an easy interface for programming our devices" said Mark Siegesmund, president of CCS Inc.

The InSight USB Link is ideal for customers seeking a low-cost ZigBee development platform, without the need for significant network-level debugging. It offers a more efficient way to burn applications on to Ember-based ZigBee modules. It can also be easily integrated on to a manufacturing floor for low volume production. The USB Link complements Ember's InSight Adapter, which is ideal for network level debugging, and Ember's existing support for a wide range of high volume production gang programmers.

It could be that both the biggest players in ZigBee – TI and Ember – are having to face up to the fact that it is proving very difficult to persuade their customers to develop ZigBee solutions.

If we are wrong, we would welcome being corrected.

MeshNetics certified ZigBit modules

MeshNetics, a ZigBee technology provider, has obtained ZigBee 2006 certification for its family of ZigBit 802.15.4/ZigBee OEM modules that are based on a chipset from Atmel Corporation. MeshNetics' ZigBeeNet is apparently the first ZigBee-certified stack for the Atmel AVR Z-Link hardware platform, consisting of an ATmega1281 AVR Flash microcontroller and an AT86RF230 RF transceiver.

The ZigBit modules are the first to utilize Atmel's new AT86RF230 radio. MeshNetics claims that, thanks to its 104 dBm performance, its range is almost 3 times that of its competitors.

"The ZigBee-certified platform represents an important building block in the fast developing ZigBee market," said Magnus Pedersen, Atmel's Director of Product Marketing AVR RF. "With the ZigBee certification process in place, we are pleased to see MeshNetics being the first company to qualify on the AVR Z-Link platform."

All ZigBit modules come bundled with networking stack firmware that enables the module-based wireless sensor devices to form self-healing, self-organizing mesh networks. ZigBit evaluation kits are available.

Snippets

Wi-Fi / WLAN

Qualcomm Breaks into Wi-Fi Chipset Market

late calendar year 2006, Qualcomm acquired Airgo, a pioneer in applying Multiple-Input Multiple-Output (MIMO) technology to Wi-Fi. The amount that Qualcomm paid for Airgo was unclear, as its purchase price was reported together with two other acquisitions that Qualcomm made in the same timeframe. The company reported that it acquired the following three businesses for $178 million in cash: 1. Airgo, 2. RF Micro Devices' Bluetooth assets, and 3. the assets of nPhase, a vendor of machine-to-machine products and services.

VOIP not secure

A survey by Infosecurity Europe of 291 companies has found that 93% of companies believe that instant messaging (IM) and Voice over IP (VoIP) usage is moving faster than corresponding security. The view on VoIP is that although there has been some adoption, it is not yet a widely deployed technology in corporates although it was being used a lot by travelling executives and the story is very different in the SME area where many have rushed to take the opportunity to reduce costs.
There are security issues relating to VoIP regarding encrypted traffic and also the potential for SPIM to clog VoIP communications and cause similar problems to those caused by SPAM in email.